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QUARTERLY REPORT AIRBORNE URANIUM EMISSIONS OCTOBER 1, 1991 TO DECEMBER 31, 1991

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ENCLOSURE

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ENCLOSURE 1

QUARTERLY REPORT
AIRBORNE URANIUM EMISSIONS
OCTOBER 1, 1991 TO DECEMBER 31, 1991

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QUARTERLY REPORT
AIRBORNE URANIUM EMISSIONS
OCTOBER 1, 1991 TO DECEMBER 31, 1991

FEDERAL FACILITIES COMPLIANCE AGREEMENT
CLEAN AIR ACT SECTION - ITEM E

U.S. DEPARTMENT OF ENERGY
FERNALD ENVIRONMENTAL MANAGEMENT PROJECT
FERNALD, OHIO

AIRBORNE EMISSIONS REPORT FOR THE PERIOD 10/01/91 TO 12/31/91 IN RESPONSE TO ITEM E OF THE CLEAN AIR ACT SECTION FEDERAL FACILITY COMPLIANCE AGREEMENT

Introduction

This report is submitted in response to Item E of the Clean Air Act Section of the Federal Facility Compliance Agreement. Specifically, the EPA has required the following action:

> "U.S. DOE shall maintain records of monthly particulate matter emissions and shall provide U.S. EPA with quarterly reports."

The emissions of concern are considered to be particulate uranium. The report includes monthly reports of emissions from monitored stacks, unmonitored stacks, and scrubbers; as well as, the quarterly summary report. Air emissions at the FEMP are routinely analyzed for total uranium.

Dust Collectors

There are 47 stack samplers currently operational at the FEMP which handle uranium dust. Dust collector EF3 RMP-1 was the only unit operated during the reporting period. Dust collectors G1-856, G2-6042, G5-248, G5-262, G5-284, G5-1029, G9N1-1035, and G55-1016 are equipped with a multiple point continuous isokinetic sampler. All other dust collectors are equipped with a single point particulate sampler. A sampler consists of a pleated paper filter in a cap-shaped holder. Air is drawn through the filter, leaving any particulates on the paper. At regular intervals, the filters are destructively analyzed for uranium.

Scrubbers

Conventional monitors cannot be used to measure emissions from wet scrubber systems, because of the high moisture content of the exhaust gas. In the case of a filter sampler, the paper quickly becomes saturated and restricts air flow. To date, a real-time monitor has not been found that can be used in the scrubber exhausts. Particulate emissions reports will include estimated uranium losses from the FEMP scrubber systems. These estimates are based on emissions factors obtained from earlier U.S. EPA Method V stack testing.

There are 13 uranium emissions scrubbers currently operational at the FEMP. Scrubbers were not operated during the reporting period.

Other Emissions

Emissions from eight sources, which do not have samplers installed, are calculated monthly. Emissions factors for these sources are based on hours of operation in the mode which results in an air emission, U.S. EPA Method V stack testing or engineering estimates. There were emissions from three of these sources during the reporting period.

Building vents and unmonitored laboratory hoods are not included in particulate emission reports because uranium losses from these are considered to be insignificant and are reported in the annual NESHAP Subpart H compliance demonstration.

SUMMARY OF URANIUM EMISSIONS FROM PARTICULATE STACKS AND SCRUBBERS
FOR THE PERIOD 10/1/91 to 12/31/91

Emission Point Number	Control Equip.	Stack Sampler Status	U Emissions (kg) Stack Total	% of FMPC Total
Plant 1				
007	G2-1	I	N/O	0
005	G2-2	I	N/O	0
006	G2-64	I	N/O	0
003	G2-76	I	N/O	0
015	G2-171	I	N/O	0
001	G2-172	I	N/O	0
016	G2-235	I	N/O	0
010	G2-6014	I	N/O	0
002	G2-6042	I	N/O	0
Total Plant 1 Emissions			0.0	0
Plant 2/3				
023	G1-94	I	N/O	0
023	G1-856	I	N/O	0
092		S	N/O	0
093		S	N/O	0
001		S	N/O	0
Total Plant 2/3 Emissions			0.0	0
Plant 4				
008	G4-1	I	N/O	0
005	G4-2	I	N/O	0
025	G4-4	I	N/O	0
009	G4-5	I	N/O	0
001	G4-7	I	N/O	0
006	G4-12	I	N/O	0
003	G4-13	I	N/O	0
004	G4-14	I	N/O	0
W. Talcum Cooling Vent		I	N/O	0
002		S	N/O	0
Total Plant 4 Emissions			0.0	0.0

SUMMARY OF URANIUM EMISSIONS FROM PARTICULATE STACKS AND SCRUBBERS
FOR THE PERIOD 10/1/91 to 12/31/91

Emission Point Number	Control Equip.	Stack Sampler Status	U Emissions (kg) Stack Total	% of FMPC Total
Plant 5				
3	G5-248	I	N/O	0
10	G5-256	I	N/O	0
13	G5-260	I	N/O	0
14	G5-261	I	N/O	0
17	G5-262	I	N/O	0
15	G5-284	I	N/O	0
22	G5-1020	I	N/O	0
16	G5A-101	I	N/O	0
18	G55-1016	I	N/O	0
18	G55E-100	I	N/O	0
Graphite Breakup Booth		I	N/O	0
E. Mold Cooling Booth		I	N/O	0
W. Mold Cooling Booth		I	N/O	0
Remelt Furnace		O	N/O	0
E. Cooling Well		I	N/O	0
W. Cooling Well		I	N/O	0
Total Plant 5 Emissions			0.0	0
Plant 6				
3 S ESP	G6-3578	I	N/O	0
6		S	N/O	0
Briquetting Scrubber		S	N/O	0
Scrap Pickling		S	N/O	0
Total Plant 6 Emissions			0.0	0

SUMMARY OF URANIUM EMISSIONS FROM PARTICULATE STACKS AND SCRUBBERS
FOR THE PERIOD 10/1/91 to 12/31/91

Emission Point Number	Control Equip.	Stack Sampler Status	U Emissions (kg) Stack Total	% of FMPC Total
Plant 8				
008	G8-8057	I	N/O	0
006	G8-8035	I	N/O	0
001	G43-27	I	N/O	0
011	G43-29	I	N/O	0
002 Rotary Kiln		S	N/O	0
007 Oxidation No. 1		S	N/O	0
010 Box Furnace		S	N/O	0
005 Primary Calciner		S	N/O	0
Drum Washer		0	N/O	0
EIMCO #1		0	0.001036	13.250
EIMCO #2		0	N/O	0
Oliver Filter		0	0.004400	56.273
Total Plant 8 Emissions			0.005436	69.523
Plant 9				
001	G9E2-400	I	N/O	0
	G9N1-1035	I	N/O	0
Zirnlo-Derby Pickling		0	N/O	0
Total Plant 9 Emissions			0.0	0
Pilot Plant				
015	G-1	I	N/O	0
016	G-2	I	N/O	0
R-41	735-13-7041	I	N/O	0
R-50	735-13-7051	I	N/O	0
	Reactor Area	S	N/O	0
	Stokes Vacuum Pump	0	N/O	0
Total Pilot Plant Emissions			0.0	0.0

SUMMARY OF URANIUM EMISSIONS FROM PARTICULATE STACKS AND SCRUBBERS
FOR THE PERIOD 10/1/91 to 12/31/91

Emission Point Number	Control Equip.	Stack Sampler Status	U Emissions (kg) Stack Total	% of FMPC Total
Laboratory				
001	G15-001	I	N/O	0
	EF3 RMP-1	I	0.000623	7.968
Total Laboratory Emissions			0.000623	7.968
NAR System				
Total NAR Emissions		S	0.0	0
D & D Facility				
Total D & D Facility Emissions		O	0.001760	22.509
Summary of FEMP Air Emissions for the Fourth Quarter CY 1991			0.007819	100

KEY: I - Stack sampler is installed.
S - Scrubber system, emissions are estimated.
O - No sampler installed, emissions are estimated.

N/O = The dust collector and associated process sources were not operated during the reporting period.

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Environmental Compliance - Release/Emission Reporting

Emissions Report for the period from October 1, 1991 to October 31, 1991.

Collector Number	Status	Notes	Stack Discharges Estimated During This Reporting Period kg U	Sampling Interval	Total This Year kg U
Plant 1					
G2-1	5	Filter #892	N/O	10/15/89	0.0
G2-2	5	Filter #894	N/O	10/15/89	0.0
G2-64	5	Filter #877	N/O	10/15/89	0.0
G2-76	5	Filter #891	N/O	10/15/89	0.0
G2-171	5	Filter #895	N/O	10/15/89	0.0
G2-172	5	Filter #467	N/O	6/29/91	0.0
G2-235	5	Filter #468	N/O	6/29/91	0.0
G2-6014	5	Filter #469	N/O	6/29/91	0.0
G2-6042 D *	5	Filter #470	N/A	6/29/91	0.0
G2-6042 S	5	Filter #471	N/O	6/29/91	0.0
Totals			0.0		0.0
Plant 2/3					
G1-94	5	Filter #963	N/O	11/22/89	0.0
G2-856 D *	5	Filter #472	N/A	6/29/91	0.0
G2-856 S	5	Filter #473	N/O	6/29/91	0.000070
Totals			0.0		0.000070
Plant 4					
G4-1	5	Filter #897	N/O	10/15/89	0.0
G4-2	5	Filter #904	N/O	10/15/89	0.0
G4-4	5	Filter #474	N/O	6/29/91	0.0
G4-5	5	Filter #475	N/O	6/29/91	0.0
G4-7	5	Filter #898	N/O	10/15/89	0.0
G4-12	5	Filter #899	N/O	10/15/89	0.0
G4-13	5	Filter #900	N/O	10/15/89	0.0
G4-14	5	Filter #931	N/O	10/24/89	0.0
Talcum Cooling Vent	5	Filter #901	N/O	10/15/89	0.0
Totals			0.0		0.0

Status: 1 - Filter not inspected this period.
2 - Filter inspected but not changed.
3 - Filter changed, analyzed and discharge estimated.
4 - Filter changed but analysis not complete. To be reported.
5 - Collector abandoned or on standby. Stack sampler filter not routinely changed.

* - Duct sampler, not a discharge source. Emissions not included in report.
N/O = The dust collector and associated process sources were not operated.

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Environmental Compliance - Release/Emission Reporting

Emissions Report for the period from October 1, 1991 to October 31, 1991.

Collector Number	Status	Notes	Stack Discharges Estimated During This Reporting Period		Total This Year
			kg U	Sampling Interval	kg U
Plant 5					
G5-247 D •	5	Filter #476	N/A	6/29/91	0.0
G5-248 D •	5	Filter #477	N/A	6/29/91	0.0
G5-248 S	5	Filter #478	N/O	6/29/91	0.0
G5-256	5	Filter #132	N/O	5/13/90	0.0
G5-260	5	Filter #133	N/O	5/13/90	0.0
G5-261	5	Filter #134	N/O	5/13/90	0.0
G5-262	5	Filter #135	N/O	5/13/90	0.0
G5A-101	5	Filter #137	N/O	5/13/90	0.0
G5A-284 D •	5	Filter #489	N/A	6/29/91	0.0
G5A-284 S	5	Filter #490	N/O	6/29/91	0.0
G05-1019 D *	5	Filter #491	N/A	6/29/91	0.0
G05-1020 S	5	Filter #492	N/O	6/29/91	0.0
G05-1029 D *	5	Filter #493	N/A	6/29/91	0.0
G55-1016 S	5	Filter #479	N/O	6/29/91	0.0
G55-1017 D *	5	Filter #488	N/A	6/29/91	0.0
G55E-100	5	Filter #136	N/O	5/13/90	0.0
Graphite Breakup Booth	5	Filter #965	N/O	11/22/89	0.0
E. Mold Cooling Booth	5	Filter #964	N/O	11/22/89	0.0
W. Mold Cooling Booth	5	Filter #968	N/O	11/22/89	0.0
East Cooling Well	5	Filter #915	N/O	10/19/89	0.0
West Cooling Well	5	Filter #916	N/O	10/19/89	0.0
Totals			0.0		0.0

Plant 6					
North ESP	5	Filter #65	N/O	2/19/90	0.0
South ESP	5	Filter #37	N/O	1/23/90	0.0
Totals			0.0		0.0

Status: 1 - Filter not inspected this period.
2 - Filter inspected but not changed.
3 - Filter changed, analyzed and discharge estimated.
4 - Filter changed but analysis not complete. To be reported.
5 - Collector abandoned or on standby. Stack sampler filter not routinely changed.

• - Duct sampler, not a discharge source. Emissions not included in report.
N/O = The dust collector and associated process sources were not operated.

Environmental Compliance - Release/Emission Reporting

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Emissions Report for the period from October 1, 1991 to October 31, 1991.

Collector Number	Status	Notes	Stack Discharges Estimated During This Reporting Period kg U	Sampling Interval	Total This Year kg U
Plant 8					
G43-27	5	Filter #928	N/O	10/24/89	0.0
G43-29	5	Filter #929	N/O	10/24/89	0.0
G8-8035	5	Filter #930	N/O	10/24/89	0.0
G8-8057	5	Filter #896	N/O	10/15/89	0.0
Totals			0.0		0.0
Plant 9					
G9E2-400	5	Filter #38	N/O	1/23/90	0.0
G9N1-1035 D *	5	Filter #494	N/A	6/29/91	0.0
G9N1-1035 S	5	Filter #495	N/O	6/29/91	0.0
Totals			0.0		0.0
Pilot Plant					
G-1	5	Filter #496	N/O	6/29/91	0.0
G-2	5	Filter #497	N/O	6/29/91	0.0
735-13-7041	5	Filter #39	N/O	1/23/90	0.0
735-13-7051	5	Filter #40	N/O	1/23/90	0.0
Totals			0.0		0.0
Lab Bldg.					
G15-001	5	Filter #238	N/O	9/8/90	0.0
Totals			0.0		0.0
SITE TOTALS			0.0		0.000070

Status: 1 - Filter not inspected this period.
2 - Filter inspected but not changed.
3 - Filter changed, analyzed and discharge estimated.
4 - Filter changed but analysis not complete. To be reported.
5 - Collector abandoned or on standby. Stack sampler filter not routinely changed.

* - Duct sampler, not a discharge source. Emissions not included in report.
N/O = The dust collector and associated process sources were not operated.

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FEMP Controller's Organization - Materials Control and Accountability

Plant 8 Wet Scrubber Emission Report for the Period from 10/01/91 to 10/31/91

Wet Scrubbers	Emission Factors U gms/hr. oper.	Wet Scrubber Emissions Calculated During This Reporting Period		Total This Year kg. U
		kg. U	Operating Hours	
Rotary Kiln	1.01 *	0	0	0
Oxidation No. 1 Furnace	7.11 *	0	0	0
Box Furnace	2.06 *	0	0	0
Primary Calciner	0.51 * 3.00**	0	0	0
Totals		0	0	0

* Current emmission factors are based on USEPA-approved stack testing studies. These factors are documented in a letter, A. M. Schwartzman to D. L. Dunaway, dated July 5, 1988, Plant 8 Scrubbers.

** This emission factor is based on continuous stack sampling performed while Primary Calciner was drying wet sump cake (MTC 0069) during April 1989.

Estimated Uranium Emissions - Unmonitored Stacks

Plant	Stack	Emission Factors*	YTD Total Cumulative Emissions (Kg U)	Estimated October Emissions (KgU/mo)
5	Jolter Mufflers - east	6.03E-7 Kg U/liner	0.000000	0.000000
	Jolter Mufflers - west	6.03E-7 Kg U/liner	0.000000	0.000000
5	Breakout Jolter Muffler	8.22E-10 Kg U/derby	0.000000	0.000000
5	Remelt furnace Hilco Oil Reclamation/Furnace Vacuum Pump System	7.62E-8 Kg U/hr	0.000000	0.000000
6	Briquetting scrubber **	1.38E-6 Kg U/lb U processed	0.000000	0.000000
6	Scrap pickling **	3.46E-4 Kg U/hr	0.000000	0.000000
8	Drum washer	3.0E-4 Kg U/hr	0.000000	0.000000
8	Eimco filter - filter #1	9.08E-5 Kg U/lb	0.011358	0.000000
	Oliver filter - east	9.08E-5 Kg U/lb	0.012175	0.003799
8	Eimco filter hood fan ***	4.89E-6 (Kg U/hr)*(min*m3/dis)	0.000000	0.000000
9	Zirnlo - derby pickling	7.45E-6 Kg U/derby	0.000000	0.000000
Pilot Plt	Reactor area - Hydrogen safety system exhaust vent ***	1.61E+7 (Kg U/hr)*(cc/micro Ci)	0.000000	0.000000
Pilot Plt	Reactor area - Scrubber C (Vessel 1 & 2 offgas line)	6.62E-9 Kg U/hr	0.000000	0.000000
Pilot	Annex area - Stokes vacuum pump	1.73E-8 Kg U/hr	0.000000	0.000000
	NAR	Based on U concentration	0.000000	0.000000
	Decontamination and Decommissioning	1.1E-4 Kg U/batch	0.020900	0.001100
	TOTAL - Kg U/month		0.044433	0.004899

* Hours as used in emission factor represent hours of operation in the mode which results in an air emission.

** Factors for Plant 6 Scrap Pickle and Briquetting were determined before these facilities were tied into the NOx Destructor. As a result, U emissions will be lower than reported. New emission factors will be developed when stack sampling is complete.

*** Due to the length of time required to analyze air activities, the reported values represent emissions from the previous month.

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Environmental Compliance - Release/Emission Reporting

Emissions Report for the period from November 1, 1991 to November 30, 1991.

Collector Number	Status	Notes	Stack Discharges Estimated During This Reporting Period kg U	Sampling Interval	Total This Year kg U
Plant 1					
G2-1	5	Filter #892	N/O	10/15/89	0.0
G2-2	5	Filter #894	N/O	10/15/89	0.0
G2-64	5	Filter #877	N/O	10/15/89	0.0
G2-76	5	Filter #891	N/O	10/15/89	0.0
G2-171	5	Filter #895	N/O	10/15/89	0.0
G2-172	5	Filter #467	N/O	6/29/91	0.0
G2-235	5	Filter #468	N/O	6/29/91	0.0
G2-6014	5	Filter #469	N/O	6/29/91	0.0
G2-6042 D *	5	Filter #470	N/A	6/29/91	0.0
G2-6042 S	5	Filter #471	N/O	6/29/91	0.0
Totals			0.0		0.0
Plant 2/3					
G1-94	5	Filter #963	N/O	11/22/89	0.0
G2-856 D *	5	Filter #472	N/A	6/29/91	0.0
G2-856 S	5	Filter #473	N/O	6/29/91	0.000070
Totals			0.0		0.000070
Plant 4					
G4-1	5	Filter #897	N/O	10/15/89	0.0
G4-2	5	Filter #904	N/O	10/15/89	0.0
G4-4	5	Filter #474	N/O	6/29/91	0.0
G4-5	5	Filter #475	N/O	6/29/91	0.0
G4-7	5	Filter #898	N/O	10/15/89	0.0
G4-12	5	Filter #899	N/O	10/15/89	0.0
G4-13	5	Filter #900	N/O	10/15/89	0.0
G4-14	5	Filter #931	N/O	10/24/89	0.0
Talcum Cooling Vent	5	Filter #901	N/O	10/15/89	0.0
Totals			0.0		0.0

Status: 1 - Filter not inspected this period.
2 - Filter inspected but not changed.
3 - Filter changed, analyzed and discharge estimated.
4 - Filter changed but analysis not complete. To be reported.
5 - Collector abandoned or on standby. Stack sampler filter not routinely changed.

* - Duct sampler, not a discharge source. Emissions not included in report.
N/O = The dust collector and associated process sources were not operated.

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Environmental Compliance - Release/Emission Reporting

Emissions Report for the period from November 1, 1991 to November 30, 1991.

Collector Number	Status	Notes	Stack Discharges Estimated During This Reporting Period		Total This Year
			kg U	Sampling Interval	kg U
Plant 5					
G5-247 D *	5	Filter #476	N/A	6/29/91	0.0
G5-248 D *	5	Filter #477	N/A	6/29/91	0.0
G5-248 S	5	Filter #478	N/O	6/29/91	0.0
G5-256	5	Filter #132	N/O	5/13/90	0.0
G5-260	5	Filter #133	N/O	5/13/90	0.0
G5-261	5	Filter #134	N/O	5/13/90	0.0
G5-262	5	Filter #135	N/O	5/13/90	0.0
G5A-101	5	Filter #137	N/O	5/13/90	0.0
G5A-284 D *	5	Filter #489	N/A	6/29/91	0.0
G5A-284 S	5	Filter #490	N/O	6/29/91	0.0
G05-1019 D *	5	Filter #491	N/A	6/29/91	0.0
G05-1020 S	5	Filter #492	N/O	6/29/91	0.0
G05-1029 D *	5	Filter #493	N/A	6/29/91	0.0
G55-1016 S	5	Filter #479	N/O	6/29/91	0.0
G55-1017 D *	5	Filter #488	N/A	6/29/91	0.0
G55E-100	5	Filter #136	N/O	5/13/90	0.0
Graphite Breakup Booth	5	Filter #965	N/O	11/22/89	0.0
E. Mold Cooling Booth	5	Filter #964	N/O	11/22/89	0.0
W. Mold Cooling Booth	5	Filter #968	N/O	11/22/89	0.0
East Cooling Well	5	Filter #915	N/O	10/19/89	0.0
West Cooling Well	5	Filter #916	N/O	10/19/89	0.0
Totals			0.0		0.0
Plant 6					
North ESP	5	Filter #65	N/O	2/19/90	0.0
South ESP	5	Filter #37	N/O	1/23/90	0.0
Totals			0.0		0.0

Status: 1 - Filter not inspected this period.
2 - Filter inspected but not changed.
3 - Filter changed, analyzed and discharge estimated.
4 - Filter changed but analysis not complete. To be reported.
5 - Collector abandoned or on standby. Stack sampler filter not routinely changed.

* - Duct sampler, not a discharge source. Emissions not included in report.
N/O = The dust collector and associated process sources were not operated.

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Environmental Compliance - Release/Emission Reporting

Emissions Report for the period from November 1, 1991 to November 30, 1991.

Collector Number	Status	Notes	Stack Discharges Estimated During This Reporting Period kg U	Sampling Interval	Total This Year kg U
Plant 8					
G43-27	5	Filter #928	N/O	10/24/89	0.0
G43-29	5	Filter #929	N/O	10/24/89	0.0
G8-8035	5	Filter #930	N/O	10/24/89	0.0
G8-8057	5	Filter #896	N/O	10/15/89	0.0
Totals			0.0		0.0
Plant 9					
G9E2-400	5	Filter #38	N/O	1/23/90	0.0
G9N1-1035 D *	5	Filter #494	N/A	6/29/91	0.0
G9N1-1035 S	5	Filter #495	N/O	6/29/91	0.0
Totals			0.0		0.0
Pilot Plant					
G-1	5	Filter #496	N/O	6/29/91	0.0
G-2	5	Filter #497	N/O	6/29/91	0.0
735-13-7041	5	Filter #39	N/O	1/23/90	0.0
735-13-7051	5	Filter #40	N/O	1/23/90	0.0
Totals			0.0		0.0
Lab Bldg.					
G15-001	5	Filter #238	N/O	9/8/90	
EF3 RMP-1	4	Filter #498		11/27/91 to 12/2/91	0.0
Totals			0.0		0.0
SITE TOTALS			0.0		0.000070

Status: 1 - Filter not inspected this period.
2 - Filter inspected but not changed.
3 - Filter changed, analyzed and discharge estimated.
4 - Filter changed but analysis not complete. To be reported.
5 - Collector abandoned or on standby. Stack sampler filter not routinely changed.

* - Duct sampler, not a discharge source. Emissions not included in report.
N/O = The dust collector and associated process sources were not operated.

FEMP Controller's Organization - Materials Control and Accountability

Plant 8 Wet Scrubber Emission Report for the Period from 11/01/91 to 11/30/91

Wet Scrubbers	Emission Factors U gms/hr. oper.	Wet Scrubber Emissions Calculated During This Reporting Period		Total This Year kg. U
		kg. U	Operating Hours	
Rotary Kiln	1.01 *	0	0	0
Oxidation No. 1 Furnace	7.11 *	0	0	0
Box Furnace	2.06 *	0	0	0
Primary Calciner	0.51 * 3.00**	0	0	0
Totals		0	0	0

* Current emmission factors are based on USEPA-approved stack testing studies. These factors are documented in a letter, A. M. Schwartzman to D. L. Dunaway, dated July 5, 1988, Plant 8 Scrubbers.

** This emission factor is based on continuous stack sampling performed while Primary Calciner was drying wet sump cake (MTC 0069) during April 1989.

Estimated Uranium Emissions - Unmonitored Stacks

Plant	Stack	Emission Factors*	YTD Total Cumulative Emissions (Kg U)	Estimated November Emissions (KgU/mo)
5	Jolter Mufflers - east	6.03E-7 Kg U/liner	0.000000	0.000000
	Jolter Mufflers - west	6.03E-7 Kg U/liner	0.000000	0.000000
5	Breakout Jolter Muffler	8.22E-10 Kg U/derby	0.000000	0.000000
5	Remelt furnace Hilco Oil Reclamation/Furnace Vacuum Pump System	7.62E-8 Kg U/hr	0.000000	0.000000
6	Briquetting scrubber **	1.38E-6 Kg U/lb U processed	0.000000	0.000000
6	Scrap pickling **	3.46E-4 Kg U/hr	0.000000	0.000000
8	Drum washer	3.0E-4 Kg U/hr	0.000000	0.000000
8	Eimco filter - filter #1	9.08E-5 Kg U/lb	0.012077	0.000719
	Oliver filter - east	9.08E-5 Kg U/lb	0.012175	0.000000
8	Eimco filter hood fan ***	4.89E-6 (Kg U/hr)*(min*m3/dis)	0.000000	0.000000
9	Zirnlo - derby pickling	7.45E-6 Kg U/derby	0.000000	0.000000
Pilot Plt	Reactor area - Hydrogen safety system exhaust vent ***	1.61E+7 (Kg U/hr)*(cc/micro Ci)	0.000000	0.000000
Pilot Plt	Reactor area - Scrubber C (Vessel 1 & 2 offgas line)	6.62E-9 Kg U/hr	0.000000	0.000000
Pilot	Annex area - Stokes vacuum pump	1.73E-8 Kg U/hr	0.000000	0.000000
	NAR	Based on U concentration	0.000000	0.000000
	Decontamination and Decommissioning	1.1E-4 Kg U/batch	0.021450	0.000550
	TOTAL - Kg U/month		0.045702	0.001269

* Hours as used in emission factor represent hours of operation in the mode which results in an air emission.

** Factors for Plant 6 Scrap Pickle and Briquetting were determined before these facilities were tied into the NOx Destructor. As a result, U emissions will be lower than reported. New emission factors will be developed when stack sampling is complete.

*** Due to the length of time required to analyze air activities, the reported values represent emissions from the previous month.

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Environmental Compliance - Release/Emission Reporting

Emissions Report for the period from December 1, 1991 to December 31, 1991.

Collector Number	Status	Notes	Stack Discharges Estimated During This Reporting Period kg U	Sampling Interval	Total This Year kg U
Plant 1					
G2-1	5	Filter #892	N/O	10/15/89	0.0
G2-2	5	Filter #894	N/O	10/15/89	0.0
G2-64	5	Filter #877	N/O	10/15/89	0.0
G2-76	5	Filter #891	N/O	10/15/89	0.0
G2-171	5	Filter #895	N/O	10/15/89	0.0
G2-172	5	Filter #467	N/O	6/29/91	0.0
G2-235	5	Filter #468	N/O	6/29/91	0.0
G2-6014	5	Filter #469	N/O	6/29/91	0.0
G2-6042 D *	5	Filter #470	N/A	6/29/91	0.0
G2-6042 S	5	Filter #471	N/O	6/29/91	0.0
Totals			0.0		0.0
Plant 2/3					
G1-94	5	Filter #963	N/O	11/22/89	0.0
G2-856 D *	5	Filter #472	N/A	6/29/91	0.0
G2-856 S	5	Filter #473	N/O	6/29/91	0.000070
Totals			0.0		0.000070
Plant 4					
G4-1	5	Filter #897	N/O	10/15/89	0.0
G4-2	5	Filter #904	N/O	10/15/89	0.0
G4-4	5	Filter #474	N/O	6/29/91	0.0
G4-5	5	Filter #475	N/O	6/29/91	0.0
G4-7	5	Filter #898	N/O	10/15/89	0.0
G4-12	5	Filter #899	N/O	10/15/89	0.0
G4-13	5	Filter #900	N/O	10/15/89	0.0
G4-14	5	Filter #931	N/O	10/24/89	0.0
Talcum Cooling Vent	5	Filter #901	N/O	10/15/89	0.0
Totals			0.0		0.0

Status: 1 - Filter not inspected this period.
2 - Filter inspected but not changed.
3 - Filter changed, analyzed and discharge estimated.
4 - Filter changed but analysis not complete. To be reported.
5 - Collector abandoned or on standby. Stack sampler filter not routinely changed.

* - Duct sampler, not a discharge source. Emissions not included in report.
N/O = The dust collector and associated process sources were not operated.

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Environmental Compliance - Release/Emission Reporting

Emissions Report for the period from December 1, 1991 to December 31, 1991.

Collector Number	Status	Notes	Stack Discharges Estimated During This Reporting Period kg U	Sampling Interval	Total This Year kg U
Plant 5					
G5-247 D *	5	Filter #476	N/A	6/29/91	0.0
G5-248 D *	5	Filter #477	N/A	6/29/91	0.0
G5-248 S	5	Filter #478	N/O	6/29/91	0.0
G5-256	5	Filter #132	N/O	5/13/90	0.0
G5-260	5	Filter #133	N/O	5/13/90	0.0
G5-261	5	Filter #134	N/O	5/13/90	0.0
G5-262	5	Filter #135	N/O	5/13/90	0.0
G5A-101	5	Filter #137	N/O	5/13/90	0.0
G5A-284 D *	5	Filter #489	N/A	6/29/91	0.0
G5A-284 S	5	Filter #490	N/O	6/29/91	0.0
G05-1019 D *	5	Filter #491	N/A	6/29/91	0.0
G05-1020 S	5	Filter #492	N/O	6/29/91	0.0
G05-1029 D *	5	Filter #493	N/A	6/29/91	0.0
G55-1016 S	5	Filter #479	N/O	6/29/91	0.0
G55-1017 D *	5	Filter #488	N/A	6/29/91	0.0
G55E-100	5	Filter #136	N/O	5/13/90	0.0
Graphite Breakup Booth	5	Filter #965	N/O	11/22/89	0.0
E. Mold Cooling Booth	5	Filter #964	N/O	11/22/89	0.0
W. Mold Cooling Booth	5	Filter #968	N/O	11/22/89	0.0
East Cooling Well	5	Filter #915	N/O	10/19/89	0.0
West Cooling Well	5	Filter #916	N/O	10/19/89	0.0
Totals			0.0		0.0
Plant 6					
North ESP	5	Filter #65	N/O	2/19/90	0.0
South ESP	5	Filter #37	N/O	1/23/90	0.0
Totals			0.0		0.0

Status: 1 - Filter not inspected this period.
2 - Filter inspected but not changed.
3 - Filter changed, analyzed and discharge estimated.
4 - Filter changed but analysis not complete. To be reported.
5 - Collector abandoned or on standby. Stack sampler filter not routinely changed.

* - Duct sampler, not a discharge source. Emissions not included in report.
N/O = The dust collector and associated process sources were not operated.

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Environmental Compliance - Release/Emission Reporting

Emissions Report for the period from December 1, 1991 to December 31, 1991.

Collector Number	Status	Notes	Stack Discharges Estimated During This Reporting Period kg U	Sampling Interval	Total This Year kg U
Plant 8					
G43-27	5	Filter #928	N/O	10/24/89	0.0
G43-29	5	Filter #929	N/O	10/24/89	0.0
G8-8035	5	Filter #930	N/O	10/24/89	0.0
G8-8057	5	Filter #896	N/O	10/15/89	0.0
Totals			0.0		0.0
Plant 9					
G9E2-400	5	Filter #38	N/O	1/23/90	0.0
G9N1-1035 D *	5	Filter #494	N/A	6/29/91	0.0
G9N1-1035 S	5	Filter #495	N/O	6/29/91	0.0
Totals			0.0		0.0
Pilot Plant					
G-1	5	Filter #496	N/O	6/29/91	0.0
G-2	5	Filter #497	N/O	6/29/91	0.0
735-13-7041	5	Filter #39	N/O	1/23/90	0.0
735-13-7051	5	Filter #40	N/O	1/23/90	0.0
Totals			0.0		0.0
Lab Bldg.					
G15-001	5	Filter #238	N/O	9/8/90	
EF3 RMP-1	3	Filter #498	0.000623	11/27/91 to 12/2/91	0.000623
Totals			0.000623		0.000623
SITE TOTALS			0.000623		0.000693

Status: 1 - Filter not inspected this period.
2 - Filter inspected but not changed.
3 - Filter changed, analyzed and discharge estimated.
4 - Filter changed but analysis not complete. To be reported.
5 - Collector abandoned or on standby. Stack sampler filter not routinely changed.

* - Duct sampler, not a discharge source. Emissions not included in report.
N/O = The dust collector and associated process sources were not operated.

FEMP Controller's Organization - Materials Control and Accountability

Plant 8 Wet Scrubber Emission Report for the Period from 12/01/91 to 12/31/91

Wet Scrubbers	Emission Factors U gms/hr. oper.	Wet Scrubber Emissions Calculated During This Reporting Period		Total This Year kg. U
		kg. U	Operating Hours	
Rotary Kiln	1.01 *	0	0	0
Oxidation No. 1 Furnace	7.11 *	0	0	0
Box Furnace	2.06 *	0	0	0
Primary Calciner	0.51 * 3.00 **	0	0	0
Totals		0	0	0

* Current emmission factors are based on USEPA-approved stack testing studies. These factors are documented in a letter, A. M. Schwartzman to D. L. Dunaway, dated July 5, 1988, Plant 8 Scrubbers.

** This emission factor is based on continuous stack sampling performed while Primary Calciner was drying wet sump cake (MTC 0069) during April 1989.

Estimated Uranium Emissions - Unmonitored Stacks

Plant	Stack	Emission Factors*	YTD Total Cumulative Emissions (Kg U)	Estimated December Emissions (KgU/mo)
5	Jolter Mufflers - east	6.03E-7 Kg U/liner	0.000000	0.000000
	Jolter Mufflers - west	6.03E-7 Kg U/liner	0.000000	0.000000
5	Breakout Jolter Muffler	8.22E-10 Kg U/derby	0.000000	0.000000
5	Remelt furnace Hilco Oil Reclamation/Furnace Vacuum Pump System	7.62E-8 Kg U/hr	0.000000	0.000000
6	Briquetting scrubber **	1.38E-6 Kg U/lb U processed	0.000000	0.000000
6	Scrap pickling **	3.46E-4 Kg U/hr	0.000000	0.000000
8	Drum washer	3.0E-4 Kg U/hr	0.000000	0.000000
8	Eimco filter - filter #1	9.08E-5 Kg U/lb	0.012394	0.000317
	Oliver filter - east	9.08E-5 Kg U/lb	0.012776	0.000601
8	Eimco filter hood fan ***	4.89E-6 (Kg U/hr)*(min*m3/dis)	0.000000	0.000000
9	Zirnlo - derby pickling	7.45E-6 Kg U/derby	0.000000	0.000000
Pilot Plt	Reactor area - Hydrogen safety system exhaust vent ***	1.61E+7 (Kg U/hr)*(cc/micro Ci)	0.000000	0.000000
Pilot Plt	Reactor area - Scrubber C (Vessel 1 & 2 offgas line)	6.62E-9 Kg U/hr	0.000000	0.000000
Pilot	Annex area - Stokes vacuum pump	1.73E-8 Kg U/hr	0.000000	0.000000
	NAR	Based on U concentration	0.000000	0.000000
	Decontamination and Decommissioning	1.1E-4 Kg U/batch	0.021560	0.000110
	TOTAL - Kg U/month		0.046730	0.001028

* Hours as used in emission factor represent hours of operation in the mode which results in an air emission.

** Factors for Plant 6 Scrap Pickle and Briquetting were determined before these facilities were tied into the NOx Destructor. As a result, U emissions will be lower than reported. New emission factors will be developed when stack sampling is complete.

*** Due to the length of time required to analyze air activities, the reported values represent emissions from the previous month.